

ORION
HIGH PERFORMANCE CAR AUDIO™

component speaker
owner's manual

HCCA 5.2
HCCA 6.2

POWERED BY HARDCORE ATTITUDE

TABLE OF CONTENTS

Introduction	1
Practice Safe Sound™	1
What's in the Box	2
Installation	2
Tools of the Trade	3
Finding Speaker Mounting Locations	3
Door Mounting	4
Rear Deck Mounting	4
Installing the Mid/Woofers	4
Installing the Tweeters	5
Full Flush Mounting	6
Installing the Crossover	7
Specifications	10
Features	10

INTRODUCTION

Thank you for your purchase of the Orion HCCA Component Loudspeaker system. These speakers represent a combination of incredible performance and value. The HCCA die-cast components feature Kevlar treated paper cones and silk dome tweeters. Capable of maintaining their balance and clarity at exceptionally high output levels, they are the perfect complement to the HCCA subwoofers. The crossovers feature tweeter level adjustment, and are blampable for extreme system designs. These high-performance components are built with 4 ohm voice coils, to get the most out of your amplifier. The components are available in a standard 5 1/4" and 6-1/2" sizes to fit most applications.

We at Orion strive to give you all the latest up to date information about this product. What we can't give you in this manual is personal installation or technical experience. If you have questions concerning the use or application of this product, please refer to the nearest Authorized ORION Dealer for assistance or call the Orion technical support hotline at 1-800-876-0800. As we are always finding new ways to improve our product, the features and specifications are subject to change without notice.

PRACTICE SAFE SOUND™

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered automotive sound systems can generate sound pressure levels in excess of 130dB. When playing your system at high levels, please use hearing protection and prevent long term exposure.

Model Number: _____

Date of Purchase: _____

WHAT'S IN THE BOX

Included in this box are all the necessary mounting hardware and cables for your basic installation. Listed below is a detailed list of the components included in this system package.

Quantity	Description
1	Installation and Operation Manual
2	HCCA Tweeter Elements
2	Surface mount hardware
2	Flush mount hardware
2	HCCA mid/woofer
2	Passive crossovers
4	Cables (speakers to crossover)
4	Cables (crossover to amplifier)
1	Mounting template
2	Grills
	Mounting screws

INSTALLATION

The performance of the HCCA Component Loudspeaker is directly proportional to the quality of installation. Care taken during the installation process will be rewarded with years of satisfying performance. If you are unsure about your installation capabilities, please refer to your local Authorized Orion Dealer for technical assistance. Orion dealers are trained professionals dedicated to extracting the maximum performance out of your Orion system. If you decide to install this speaker system yourself, please read the entire installation section before starting your installation.

TOOLS OF THE TRADE

Listed are the majority of the tools required to perform the installation. Having the proper tools will make the installation much easier. It is very difficult when you get half way through the installation and discover that you require a specific tool to get yourself through a particular part of the installation. Some of these tools are necessities. Some make the job much easier.

- Marking Pen
- 1/4" Drill Bit
- 1/8" Drill Bit
- 3/8" Drill Bit
- Hole Saw Arbor
- Wire Crimpers
- 5-5/8" Hole Saw (6-1/2" woofer install.)
- 4-3/4" Hole Saw (5-1/4" mid/woofer install.)
- 2" or 2-1/8" Hole Saw (for flush mount tweeter installation.)
- Electric Drill
- Phillips Screwdriver
- Volt/Ohm Meter (Optional)
- Needle Nose Pliers
- Assorted Tin Snips
- Wire Strippers

FINDING SPEAKER MOUNTING LOCATIONS

Choosing the correct speaker locations will have the greatest effect on the sound quality of the system. Different considerations are needed when choosing the locations that best suit your needs. The locations must be large enough for the speakers to fit. Care is needed to ensure that the location you have chosen will not affect any of the mechanical or electrical operations of the vehicle. Determining the best location for the speakers will depend on your cosmetic needs and your vehicle's interior. If minimal intrusion in your vehicle is desired, factory speaker locations may be the ticket for you. Placing the speaker in the factory location can often give very desirable results.

DOOR MOUNTING

When checking for possible speaker locations in the doors, check the operation of the window and all assemblies. There is also a stabilizer stop bar in between the door and the door jamb. This bar prevents the door from opening too far. Many shade tree installers overlook this and check for clearance only when the door is fully open.

REAR DECK MOUNTING

In rear deck installations, check the operation of the trunk suspension springs or tension bars. These tension bars move in the opening and closing of the trunk. You cannot be too cautious during this part of the installation. In addition, do not locate the speakers too close to the back of the rear deck. Installing the far screws will only be possible with the removal of the rear window.

INSTALLING THE MID/WOOFERS

- Step 1: Determine where the speaker will be mounted. Make sure there is a flat area large enough for the speaker to fit properly. An uneven mounting surface can damage the driver.
- Step 2: Check to make sure the space you have chosen for the speaker will not interfere with the operation of the vehicle.
- Step 3: Using the supplied template guide, mark the mounting hole and mounting screw hole locations with a pen.
- Step 4: Cut the hole for the speaker. When using correctly sized factory locations, this step can be passed. A hole can be cut either with a pair of metal tin snips, an air or jig saw, or with a hole saw corresponding to the size of the mid/woofer listed below.
 - 5-5/8" Hole Saw (6-1/2" mid/woofer installation)
 - 4-3/4" Hole Saw (5-1/4" mid/woofer install.)

WARNING: Check for clearance of window mechanisms and electrical wires BEFORE you drill.

Step 5: Run the speaker wire to the speakers. Make sure to keep wires away from sharp metal or other edges. When Passing through metal, use a protective grommet.

Step 6: Pre-drill mounting screw holes using a 1/8" drill bit.

WARNING: Check for clearance of window mechanisms and electrical wires BEFORE you drill.

Step 7: Pull the wire through the speaker opening and connect to the speaker. Be sure to observe proper mid/woofer polarity during this process.



Step 8: Mount the speaker. Place the speaker and the grille in the installation hole. Align the mounting screw holes and drive in the four mounting screws.

INSTALLING THE TWEETERS

SURFACE MOUNTING

Step 1: Determine the tweeter mounting location, then route the wires from the crossover to the tweeter location.

Step 2: Place the provided template or tweeter cup against the panel and mark the two holes at the rear of the housing.

Step 3: Drill the smaller holes using a 1/8" drill bit. These are the mounting screw holes.

WARNING: Check for clearance of window mechanisms and electrical wires BEFORE you drill.

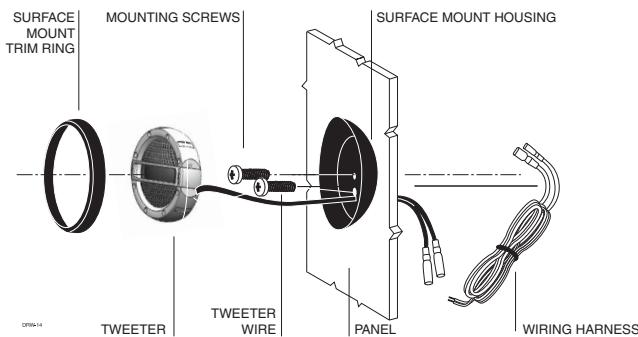
Step 4: Drill the larger off-center hole using a 3/8" drill bit, insert a grommet and route the speaker wire from the crossover through the grommet.

Step 5: After removing the surface mount tweeter assembly trim ring, route the tweeter wires through the larger hole in the housing and connect to the speaker wires from the crossover. (See Figure 4.)

Step 6: Insert the excess speaker wire into the hole and position the housing so the housing will not pinch the wires after final mounting.

Step 7: Attach the housing using the supplied screws of the correct length for a solid mount.

Step 8: Insert the tweeter into the housing and attach the surface mount trim ring.

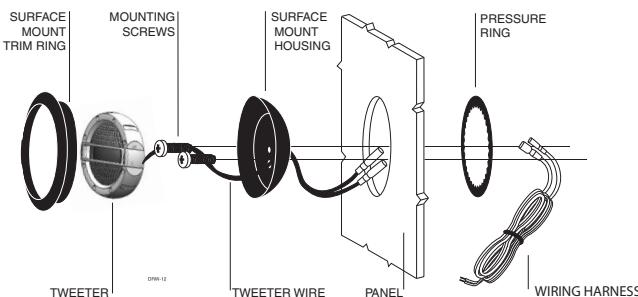


FULL FLUSH MOUNTING

- Step 1: Determine where the tweeter will be mounted. Make sure there is a flat area large enough for the tweeter and no obstructions behind the area.
- Step 2: Using supplied template mark with a pen the hole needed for the tweeter.
- Step 3: Be sure the hole is large enough for the tweeter housing.
- Step 4: Cut the hole for the tweeter. When using factory locations, this step can be skipped. A hole can be cut either with a pair of metal tin snips or a 2" hole saw for soft materials or 2-1/8" hole saw for hard materials.

WARNING: Check for clearance of window mechanisms and electrical wires BEFORE you drill.

- Step 5: Install tweeter in flush mount housing.
- Step 6: Connect the speaker wires observing the correct polarity.
- Step 7: Install tweeter and housing in the hole cut for mounting, so that the trim ring is flat with the front of the surface.
- Step 8: Use the supplied pressure ring to secure the housing to the surface.



INSTALLING THE CROSSOVER

Step 1: Find a location for the crossover away from any factory or after market electrical wires. It is recommended to mount the passive crossover close to the amplifier. In the event you decide to upgrade and bi-amplify the system, mounting the passive crossover close to the amplifier would simplify the installation upgrade.

Step 2: Remove top cover of crossover housing. Don't lose it.

Step 3: Mark with a marking pen the two mounting holes.

Step 4: Remove crossover and pre-drill mounting holes using a 1/8" drill bit.

WARNING: Check for clearance of window mechanisms and electrical wires BEFORE you drill.

Step 5: Mount the crossover using the supplied #8 screws.

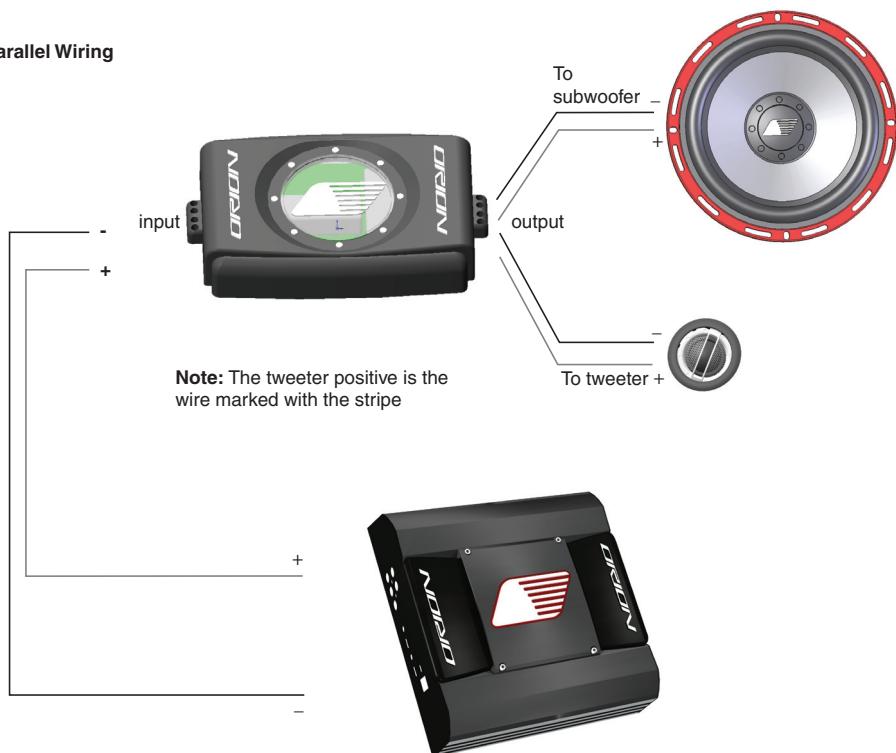
Step 6: Connect the wires. Make sure the speaker wires for the mid/woofer go to the woofer output and the tweeter to the tweeter output. Be sure to observe the correct polarity. Changing the polarity of the tweeter may be necessary for optimum sound quality.

Step 7: Re-install the crossover cover.

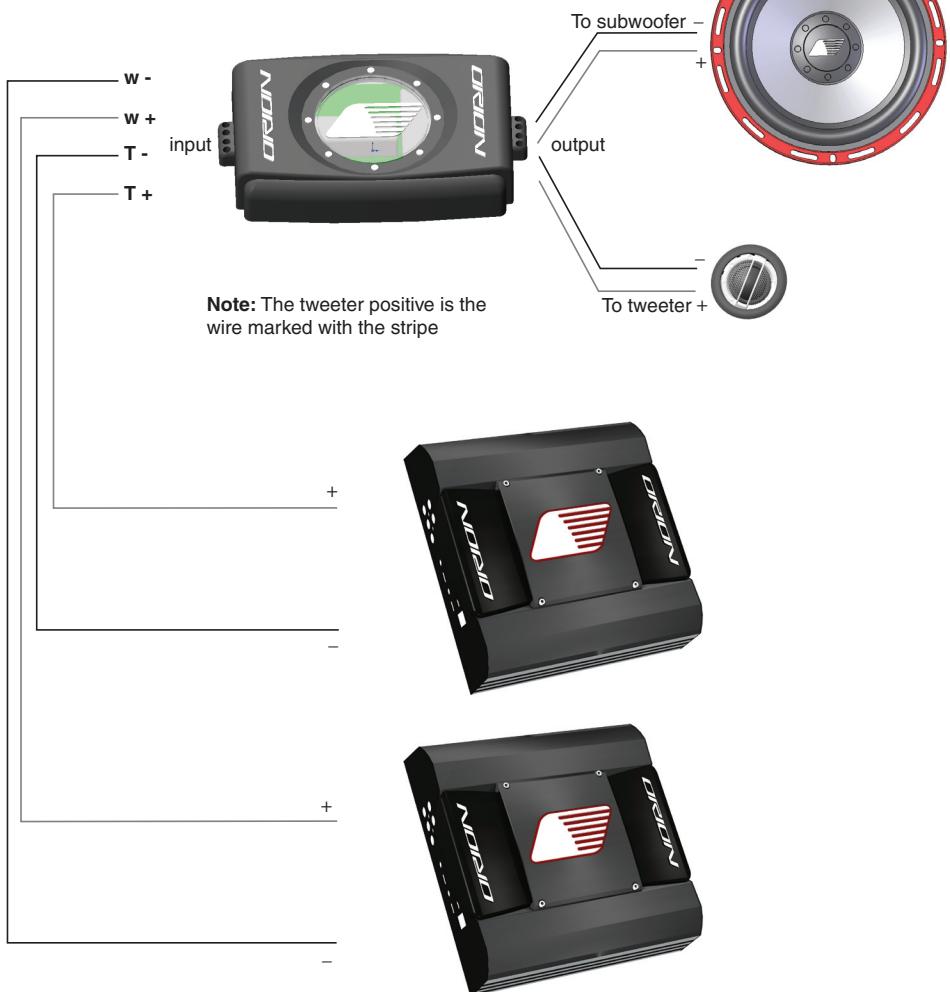
NOTE: The crossover has a parallel and a bi-wire/bi-amp input. To access these settings remove the top cover of the crossover. This is accomplished with a small flat head screw driver. There is a small notch just to the left of the output plug on the crossover. Insert the screwdriver and gently pry. Be very cautious not to insert the screwdriver too far or you could cause physical damage to the board and void your warranty. The parallel/bi-wire switch is right next to the input plug. When selecting parallel, it does just that, wires the input in parallel (meaning the positive terminals are common and the negative terminals are common). You would use this selection when using a single channel to power the tweeter and the mid/woofer. It does not matter which positive and which negative you use since they are wired in parallel, although the tweeter positive and woofer negative are on opposite ends of the plug to make the wiring easier. Parallel wiring is also probably the most popular wiring method.

The bi-wire/bi-amp selection is for using two separate channels for powering the tweeter and the mid/woofer. When using this selection one channel would use the positive and negative for the tweeter and the other channel would use the positive and negative for the mid/woofer. There is also a tweeter level switch for adjusting the tweeter. Moving this adjustment will change the output gain of the tweeter. Where the adjustment should be depends on the location of the tweeter and your preference. Adjustments can be made from +3dB to -6dB in 3 dB steps. Tweeter phase can be changed by reversing the polarity of the tweeter output wire connections on the crossover. If the tweeter is within 6" of the woofer center the tweeter should be in phase with the woofer. If the tweeter is further than 6" from the center of the woofer, both in phase and out of phase should be tried to see which is best.

Parallel Wiring



Bi-Amp Wiring



SPECIFICATIONS

Part Number	37206	37207
Model	HCCA 5.2	HCCA 6.2
Nominal Impedance	4 ohms	4 ohms
Power Continuous/Maximum	50/100	60/120
Frequency Response	75Hz - 20kHz	55Hz - 20kHz
Sensitivity	85 dB	86 dB
Mounting Depth	1.9" (49 mm)	2.125" (54mm)
Mounting Diameter	4.6" (116.5 mm)	5.625" (143mm)

FEATURES

Cone	paper & Kevlar blend – moisture and UV resistant
Surround	polyester foam
Magnet	Neodymium
Voice Coil	CCAW wire – copper clad aluminum wire for best power handling and light weight moving parts
Tweeter	dome–silk - Ferrofluid
Spider	single flat interlaced Conex
Tinsel leads	woven to spider
Custom crossover	with 12dB high pass, 6dB low pass, tweeter level adjustments, multi stage tweeter protection, and mid/mid-bass zobel circuit.
Custom grills	
Custom tweeter mounting kits including swivel	
Custom Cast Aluminum Basket: Shallow mounting depth	

WARRANTY

LIMITED ONE-YEAR CONSUMER WARRANTY/LIMITED TWO-YEAR CONSUMER WARRANTY FOR AUTHORIZED DIRECTED DEALER PURCHASE & INSTALLATION

Directed Electronics (herein "Directed") promises to the original purchaser, to repair or replace with a new or refurbished unit (at Directed's sole and absolute discretion) this product should it prove to be defective in workmanship or material under normal use, for a period of *two-years from the date of purchase from the authorized Directed dealer PROVIDED the product was purchased and installed by an authorized Directed dealer. During this *two-year period, there will be no charge for the repair or replacement PROVIDED the unit is returned to Directed, shipping prepaid, along with the required proof of installation, the bill of sale or other dated proof of purchase, and the consumer's contact information. If the unit is installed by anyone other than an authorized Directed dealer, the warranty period will be one-year from the date of purchase. This warranty is non-transferable and does not apply to any unit that has been modified or used in a manner contrary to its intended purpose, and does not cover damage to the unit caused by installation or removal of the unit. During this one-year period, there will be no charge for the repair or replacement PROVIDED the unit is returned to Directed, shipping pre-paid, along with the bill of sale or other dated proof of purchase and the consumer's contact information. This warranty is void if the product has been damaged by accident or unreasonable use, neglect, improper service or other causes not arising out of defects in materials or construction. This warranty does not cover the elimination of externally generated static or noise, or the correction of antenna problems or weak reception, damage to speakers, accessories, electrical systems, cosmetic damage or damage due to negligence, misuse, failure to follow operating instructions, accidental spills or customer applied cleaners, damage due to environmental causes such as floods, airborne fallout, chemicals, salt, hail, lightning or extreme temperatures, damage due to accidents, road hazards, fire, theft, loss or vandalism, damage due to improper connection to equipment of another manufacturer, modification of existing equipment, or Product which has been opened or tampered for any reason. Units which are found to be damaged by abuse resulting in thermally damaged voice coils are not covered by this warranty but may be replaced at the absolute and sole discretion of Directed. Unit must be returned to Directed, postage pre-paid, with bill of sale or other dated proof of purchase bearing the following information: consumer's name, telephone number, and address, authorized dealer's name and address, and product description. Unit must be returned to the following address: ATTN: WARRANTY DEPARTMENT, Directed Electronics , 1 Viper Way, Vista, CA 92081. Note: This warranty does not cover labor costs for the removal and reinstallation of the unit. IN ORDER FOR THE TWO-YEAR WARRANTY TO BE VALID, YOUR UNIT MUST BE SHIPPED WITH PROOF OF INSTALLATION BY AN AUTHORIZED DIRECTED DEALER. ALL UNITS RECEIVED BY DIRECTED FOR WARRANTY REPAIR WITHOUT PROOF OF DIRECTED DEALER INSTALLATION AND PURCHASE WILL BE COVERED BY THE LIMITED 1 YEAR WARRANTY.

BY PURCHASING THIS PRODUCT, ALL WARRANTIES INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY ARE EXPRESSLY EXCLUDED TO THE MAXIMUM EXTENT ALLOWED BY LAW, AND DIRECTED NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCT. DIRECTED HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING ITS AUTHORIZED DEALERS OR INSTALLERS. IN NO EVENT WILL DIRECTED BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFITS). BY PURCHASING THIS PRODUCT, THE CONSUMER AGREES AND CONSENTS THAT ALL DISPUTES BETWEEN THE CONSUMER AND DIRECTED SHALL BE RESOLVED IN ACCORDANCE WITH CALIFORNIA LAWS IN SAN DIEGO COUNTY, CALIFORNIA. This warranty is only valid for sale of Product within the United States of America. Product sold outside of the United States of America is sold "AS-IS," and shall have NO WARRANTY, express or implied. Some states do not allow limitation on how long an implied warranty lasts. In such states, the limitation or exclusions of this Limited Warranty may not apply. Some states do not allow the exclusion or limitation of incidental or consequential damages. In such states, the exclusion or limitation of this Limited Warranty may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

920-0033 Rev 02-07



Designed and Engineered in the USA by
Directed
ELECTRONICS, INC.